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Soft Water  
in  
Every Home

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## Important Facts You Should Know About Water

**W**ATER is an essential in every phase of modern life, and it bears such an important relation to health and personal comfort that everyone should know more about those characteristics of water that make it desirable in domestic, industrial and personal uses.

Water is the greatest natural known liquid, that is, it will dissolve readily a greater number of substances than any other liquid, and for that reason it always contains many impurities. As water falls from the sky in the form of rain, it gathers up all the particles of dust, smoke, impurities and fine gases which have risen from the ground and are floating about in the air. When it reaches the earth, some of it runs off along the surface making brooks and rivers, and some seeps into the ground to form springs and to supply our artesian wells. In any case the water is in contact with the earth passing over it, through it, and its wonderful dissolving power is kept at work gathering up mineral and organic impurities at every foot of progress.

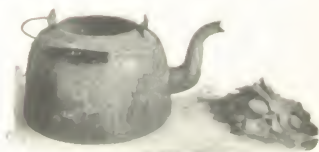
If it is surface water, that is, a brook, or river, it will pick up and carry along small

particles of the earth's surface in addition to dissolving some of it, so that the water will be "rily" or turbid as well as contain dissolved minerals. Spring or well water on the other hand is generally filtered by its passage through the earth and therefore is usually quite clean, but by reason of being in contact with the rocky formation under the ground, it contains more dissolved substances than surface water and so contains more hardness.

## What Is Hard Water?

"Hard Water" is the name applied to any water containing lime or magnesia compounds in solution, the amount of lime and magnesia determining the degree of hardness. These compounds effect the lathering properties of soap, so that a hard water may be distinguished by the fact that it is more difficult to wash with than a soft water. Unfortunately for mankind, lime and magnesia compounds are distributed everywhere throughout the earth's surface so that although some water supplies are softer than others, it is a rare occurrence to find soft

water existing in nature. Until Permutit was developed, absolutely soft water, containing no



*Hard water irregularly forms scale in kettles and boilers as the water boils away, leaving gradually nothing.*

hardness (zero water) had been produced only in the laboratory. Today, however, zero water, as accurate as the most scientific laboratory product, is available in every home.

## Soft Water in the Home

The advantages of clean, soft zero water in a household are really tremendous, for many troubles and discomforts that are attributed to other causes can be traced to hard water. The hardness, that is, the lime and magnesia compounds that are always present in untreated water, combine with soap, making it difficult to obtain a good lather as previously stated, but that is not all. In combining with soap, these compounds form an insoluble sticky curd that causes trouble and does damage in a multitude of ways not generally known outside of scientific circles. It is the soap curds, not dirt, that leave a line of deposit around a bath tub or wash basin after washing, and travelers on Western railroads will recall the washing difficulties encountered where the water supply is particularly hard.



*The lime and magnesia in hard water will deposit in pipes, wherever there is hard, undisturbed water, the greater flow of water and heating, rusting, scaling, and corrosion.*



## *The Bath*

When soap is used with hard water in the bath, the sticky soap curds that are formed work into the pores of the skin, clog them up and prevent the free exit of body impurities that is essential to a smooth, clear, healthy skin. Not only does this affect the complexion and the general condition of the skin, but it must necessarily be detrimental to the health, for it is known that a man coated with varnish would live but a few days, and although hard water soap curds are far less effective than varnish, they nevertheless clog up the skin pores to no small extent. Furthermore, they are responsible for real bodily discomfort.

Everyone is familiar with the fact that an object can be kept cool on a hot day by covering it with a damp cloth, the evaporation having a cooling effect. That is the principle utilized for cooling drinking water in the army, and for the iceless ice-boxes that are so effective in summer, and it is also the principle provided by Nature to keep mankind

cool in hot weather, by evaporation of moisture exuded from the pores of the skin. The hard water soap curds interfere with Nature's cooling process, and result in a sticky, clammy discomfort too well known to require description. The soft water supplied by Permutit cannot possibly form these sticky soap curds, for all hardness is removed from the water, and Permutit owners are loud in their exclamations of delight at the unexpected benefits and comforts derived from the use of soft water. It is available for small children.

## *The Shampoo and Shave*

In shampooing with hard water, the curdlike soap curds are deposited on the hair, creating scratches, and much discomfort to the scalp. Hundreds of hair-dressing establishments have adopted Permutit for that reason, and because soft water has been shown to impart its soft, delightful texture and beautiful gloss to the hair, and a clean, vigorous scalp to the body. For shaving, the heavy, sticky coating



lather produced by zero water quickly softens the beard, and imparts a genuine comfort unknown to hard water users.

## *The Laundry*

In the laundry soft water imparts a snowy, dry fluffiness, and a sweet smelling cleanliness to the wash that is absolutely unknown to hard water users. The absence of sticky soap curds gives a longer life to linens and produces a quality in woollens and dainty laces that cannot be surpassed. Colored goods take on a brighter hue, and delicate fabrics may be laundered without fear of harm. Textile mills and laundries the country over have found zero water to be absolutely invaluable



in producing the highest quality of work and for the same reasons, a Permutit System in the home adds unknown delights to the donning of fresh laundered linens. In the washing process too, considerable quantities of soap are actually saved by the use of zero water, an economy that is duly appreciated.

## The Heating System

In addition to its destructive property of forming soap curds, the hardness of water has another unfortunate characteristic, and precipitating one in the form of a hard insulating scale, when subjected to heat.

When hard water is heated, for example, the lime and magnesia compounds will deposit on the walls of the boiler, in the pipes and connections leading from the boiler, or wherever there is heat. This results in the clogging of pipes in steam and water heating systems, gas heaters and hot water heaters. When the pipes become "fouled up" or filled with a layer of scale, it requires more fuel to do the same amount of work. In fact, the necessary amount of fuel for boiler is a very efficient means of heating and heating the pipes also costs. This can be seen from a Parson's System of heating system, which is a very efficient one, and it is known that the fact that Parson's System are in use in large commercial heating plants for that very purpose. The reason is efficiency of heating systems. The indirect trouble from hard, heavy and harmful hot pipes, and the immediate saving of fuel is a matter of



considerable satisfaction to Permutit owners. The reduction in repair and fuel bills also forms a saving of no small consequence.

## *The Kitchen*

In the kitchen, pots and pans will be found to take on a brighter lustre when zero water is used, but it is in the cooking that its use becomes of really great importance. To cook food, heat must be applied exactly as is done in the heating system, and as in that case, scale is deposited by the lime and magnesia compounds, but *it is deposited on the food that*

*is being cooked.*

Vegetables, such as peas, beans, corn, beets, or things having a skin or fibre structure are particularly susceptible to these hard water deposits, and are made harder or tougher to a marked degree. Leading canning factories and preservers of fruits and jams have installed Permutit Softeners in their









for your home. Write us at once, or ask your architect to get you all the details, for it can be installed with your original plumbing and will keep the heating system and all the piping throughout your house in good condition from the start.

### *What Permutit Costs*

The size and cost of a Permutit System depends upon the amount of hardness in the water and the quantity of water used. The first factor can only be determined by a reliable laboratory analysis, and this the Permutit Company will do free of charge. The second may be estimated from the number of people in your household, including servants, and average number of guests. If soft water is desired in the garage, stables or similar places, the quantity can be estimated from the general number of faucets to be supplied, and information concerning the uses to which it would be put.

### *How to find the Cost for Your Home*

To obtain an estimate of the cost of a Permutit System in your home, fill out carefully and accurately the post card enclosed in this booklet, and mail to the Permutit Company, 440 Fourth Ave., New York City. If you live in a large city an analysis of the



*Permian is perfectly adapted to the various conditions of water supply, and the various methods are detailed in detail in the literature.*

water will be on file at the Permian Office, but should you be supplied by a town or village system, or have your own water supply, fill a clean half gallon jar or bottle; it must be earthenware or glass and send it by express to the Permian Company.

Be sure that the bottle is sealed tight and packed to prevent breakage and leakage in the winter. A small wooden box packed with excelsior, sawdust, or crumpled newspaper, will serve excellently.

## Soft Water for Every Home

Thousands of Permian Water Softeners are in daily use. They are being installed continuously in all parts of the country, and the apparatus built for household use is just as accurate, just as scientific as the large industrial machines that are being used by the

most exacting commercial and scientific purposes. The Permutit Company stands behind its record of producing only the best that man can devise, and offers in testimonial of that fact thousands of references from satisfied Permutit owners in every industrial enterprise and private pursuit.

Prominent hotels are Permutit equipped, leading hospitals use it for the protection and comfort of their patients, and many of the foremost doctors in the country have Permutit in their homes. It is a comfort, not a luxury, and a safeguard in the home that is established and recognized in all parts of the globe.

## *Nature's Cleanser*

Soft water has been truthfully called "Nature's Cleanser" for in the form of rain from the clouds it is the great solvent, the universal purifier of all things in nature. How wonderfully soft and sleek is the fur of wild animals washed only by rain water, and how refreshing is the air when it has been swept clean of dust and gases after a gentle fall of rain.

Permutit brings to the home all the delights, all the benefits of this wonderful tonic, and its words can adequately convey the pleasure, the satisfaction, that becomes the daily portion of Permutit owners.



HOUSE NO. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



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